



002.00160.ST25.txt

SEQUENCE LISTING

<110> Cohen, Philip
Kobayashi, Takayasu
Deak, Maria

<120> Methods Of Activating Serum Glucocorticoid Induced Protein Kinase

<130> 002.00160

<140> US 09/868,131

<141> 2002-04-11

<150> PCT/GB99/04232

<151> 1999-12-14

<150> GB 9919676.8

<151> 1999-08-19

<150> US 60/112,217

<151> 1998-12-14

<160> 51

<170> PatentIn version 3.1

<210> 1

<211> 367

<212> PRT

<213> Homo sapiens

<400> 1

Met Asn Ser Ser Pro Ala Gly Thr Pro Ser Pro Gln Pro Ser Arg Ala
1 5 10 15

Asn Gly Asn Ile Asn Leu Gly Pro Ser Ala Asn Pro Asn Ala Gln Pro
20 25 30

Thr Asp Phe Asp Phe Leu Lys Val Ile Gly Lys Gly Asn Tyr Gly Lys
35 40 45

Val Leu Leu Ala Lys Arg Lys Ser Asp Gly Ala Phe Tyr Ala Val Lys
50 55 60

Val Leu Gln Lys Lys Ser Ile Leu Lys Lys Lys Glu Gln Ser His Ile
65 70 75 80

Met Ala Glu Arg Ser Val Leu Leu Lys Asn Val Arg His Pro Phe Leu
85 90 95

Val Gly Leu Arg Tyr Ser Phe Gln Thr Pro Glu Lys Leu Tyr Phe Val
 100 105 110

Leu Asp Tyr Val Asn Gly Gly Glu Leu Phe Phe His Leu Gln Arg Glu
 115 120 125

Arg Arg Phe Leu Glu Pro Arg Ala Arg Phe Tyr Ala Ala Glu Val Ala
 130 135 140

Ser Ala Ile Gly Tyr Leu His Ser Leu Asn Ile Ile Tyr Arg Asp Leu
 145 150 155 160

Lys Pro Glu Asn Ile Leu Leu Asp Cys Gln Gly His Val Val Leu Thr
 165 170 175

Asp Phe Gly Leu Cys Lys Glu Gly Val Glu Pro Glu Asp Thr Thr Ser
 180 185 190

Thr Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val Leu Arg Lys
 195 200 205

Glu Pro Tyr Asp Arg Ala Val Asp Trp Trp Cys Leu Gly Ala Val Leu
 210 215 220

Tyr Glu Met Leu His Gly Leu Pro Pro Phe Tyr Ser Gln Asp Val Ser
 225 230 235 240

Gln Met Tyr Glu Asn Ile Leu His Gln Pro Leu Gln Ile Pro Gly Gly
 245 250 255

Arg Thr Val Ala Ala Cys Asp Leu Leu Gln Ser Leu Leu His Lys Asp
 260 265 270

Gln Arg Gln Arg Leu Gly Ser Lys Ala Asp Phe Leu Glu Ile Lys Asn
 275 280 285

His Val Phe Phe Ser Pro Ile Asn Trp Asp Asp Leu Tyr His Lys Arg
 290 295 300

Leu Thr Pro Pro Phe Asn Pro Asn Val Thr Gly Pro Ala Asp Leu Lys

305

310

315

320

His Phe Asp Pro Glu Phe Thr Gln Glu Ala Val Ser Lys Ser Ile Gly
 325 330 335

Cys Thr Pro Asp Thr Val Ala Ser Ser Ser Gly Ala Ser Ser Ala Phe
 340 345 350

Leu Gly Phe Ser Tyr Ala Pro Glu Asp Asp Asp Ile Leu Asp Cys
 355 360 365

<210> 2

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide

<400> 2

Asn Glu Glu His Asn Ser Thr Thr Ser Thr Phe Cys Gly Thr Pro Glu
 1 5 10 15

<210> 3

<211> 367

<212> PRT

<213> Mus musculus

<400> 3

Met Ala Ser Ser Pro Val Gly Val Pro Ser Pro Gln Pro Ser Arg Ala
 1 5 10 15

Asn Gly Asn Ile Asn Leu Gly Pro Ser Ala Asn Pro Asn Ala Arg Pro
 20 25 30

Thr Asp Phe Asp Phe Leu Lys Val Ile Gly Lys Gly Asn Tyr Gly Lys
 35 40 45

Val Leu Leu Ala Lys Arg Lys Ser Asp Gly Ala Phe Tyr Ala Val Lys
 50 55 60

Val Leu Gln Lys Lys Ser Ile Leu Lys Asn Lys Glu Gln Asn His Ile
 65 70 75 80

Met Ala Glu Arg Asn Val Leu Leu Lys Asn Val Arg His Pro Phe Leu
85 90 95

Val Gly Leu Arg Tyr Ser Phe Gln Thr Pro Glu Lys Leu Tyr Phe Val
100 105 110

Leu Asp Tyr Val Asn Gly Gly Glu Leu Phe Phe His Leu Gln Arg Glu
115 120 125

Arg Arg Phe Leu Glu Pro Arg Ala Arg Phe Tyr Thr Ala Glu Val Ala
130 135 140

Ser Ala Ile Gly Tyr Leu His Ser Leu Asn Ile Ile Tyr Arg Asp Leu
145 150 155 160

Lys Pro Glu Asn Ile Leu Leu Asp Cys Gln Gly His Val Val Leu Thr
165 170 175

Asp Phe Gly Leu Cys Lys Glu Cys Val Glu Pro Glu Glu Thr Thr Ser
180 185 190

Thr Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val Leu Arg Lys
195 200 205

Glu Pro Tyr Asp Arg Ala Val Asp Trp Trp Cys Leu Gly Ala Val Leu
210 215 220

Tyr Glu Met Leu His Gly Leu Pro Pro Phe Phe Asn Thr Asp Val Ala
225 230 235 240

Gln Met Tyr Glu Asn Ile Leu His Gln Pro Leu Gln Ile Pro Gly Gly
245 250 255

Arg Thr Val Ala Ala Cys Asp Leu Leu Gln Gly Leu Leu His Lys Asp
260 265 270

Gln Arg Gln Arg Leu Gly Ser Lys Glu Asp Phe Leu Asp Ile Lys Asn
275 280 285

His Met Phe Phe Ser Pro Ile Asn Trp Asp Asp Leu Tyr His Lys Arg
290 295 300

Leu Thr Pro Pro Phe Asn Pro Asn Val Glu Gly Pro Ala Asp Leu Lys
 305 310 315 320

His Phe Asp Pro Glu Phe Thr Gln Glu Ala Val Ser Lys Ser Ile Gly
 325 330 335

Cys Thr Pro Asp Thr Val Ala Ser Ser Ser Gly Ala Ser Ser Ala Phe
 340 345 350

Leu Gly Phe Ser Tyr Ala Gln Asp Asp Asp Asp Ile Leu Asp Ser
 355 360 365

<210> 4
 <211> 429
 <212> PRT
 <213> Homo sapiens

<400> 4

Met Ala Leu Lys Ile Pro Ala Lys Arg Ile Phe Gly Asp Asn Phe Asp
 1 5 10 15

Pro Asp Phe Ile Lys Gln Arg Arg Ala Gly Leu Asn Glu Phe Ile Gln
 20 25 30

Asn Leu Val Arg Tyr Pro Glu Leu Tyr Asn His Pro Asp Val Arg Ala
 35 40 45

Phe Leu Gln Met Asp Ser Pro Lys His Gln Ser Asp Pro Ser Glu Asp
 50 55 60

Glu Asp Glu Arg Ser Ser Gln Lys Leu His Ser Thr Ser Gln Asn Ile
 65 70 75 80

Asn Leu Gly Pro Ser Gly Asn Pro His Ala Lys Pro Thr Asp Phe Asp
 85 90 95

Phe Leu Lys Val Ile Gly Lys Gly Ser Phe Gly Lys Val Leu Leu Ala
 100 105 110

Lys Arg Lys Leu Asp Gly Lys Phe Tyr Ala Val Lys Val Leu Gln Lys
 115 120 125

Lys Ile Val Leu Asn Arg Lys Glu Gln Lys His Ile Met Ala Glu Arg
 130 135 140

Asn Val Leu Leu Lys Asn Val Lys His Pro Phe Leu Val Gly Leu His
 145 150 155 160

Tyr Ser Phe Gln Thr Thr Glu Lys Leu Tyr Phe Val Leu Asp Phe Val
 165 170 175

Asn Gly Gly Glu Leu Phe Phe His Leu Gln Arg Glu Arg Ser Phe Pro
 180 185 190

Glu His Arg Ala Arg Phe Tyr Ala Ala Glu Ile Ala Ser Ala Leu Gly
 195 200 205

Tyr Leu His Ser Ile Lys Ile Val Tyr Arg Asp Leu Lys Pro Glu Asn
 210 215 220

Ile Leu Leu Asp Ser Val Gly His Val Val Leu Thr Asp Phe Gly Leu
 225 230 235 240

Cys Lys Glu Gly Ile Ala Ile Ser Asp Thr Thr Thr Thr Phe Cys Gly
 245 250 255

Thr Pro Glu Tyr Leu Ala Pro Glu Val Ile Arg Lys Gln Pro Tyr Asp
 260 265 270

Asn Thr Val Asp Trp Trp Cys Leu Gly Ala Val Leu Tyr Glu Met Leu
 275 280 285

Tyr Gly Leu Pro Pro Phe Tyr Cys Arg Asp Val Ala Glu Met Tyr Asp
 290 295 300

Asn Ile Leu His Lys Pro Leu Ser Leu Arg Pro Gly Val Ser Leu Thr
 305 310 315 320

Ala Trp Ser Ile Leu Glu Glu Leu Leu Glu Lys Asp Arg Gln Asn Arg
 325 330 335

Leu Gly Ala Lys Glu Asp Phe Leu Glu Ile Gln Asn His Pro Phe Phe

340

345

Glu Ser Leu Ser Trp Ala Asp Leu Val Gln Lys Lys Ile Pro Pro Pro
355 360 365

Phe Asn Pro Asn Val Ala Gly Pro Asp Asp Ile Arg Asn Phe Asp Thr
370 375 380

Ala Phe Thr Glu Glu Thr Val Pro Tyr Ser Val Cys Val Ser Ser Asp
385 390 395 400

Tyr Ser Ile Val Asn Ala Ser Val Leu Glu Ala Asp Asp Ala Phe Val
405 410 415

Gly Phe Ser Tyr Ala Pro Pro Ser Glu Asp Leu Phe Leu
420 425

<210> 5
<211> 2146
<212> DNA
<213> Homo sapiens

<400> 5
atgggttcag actttatgcc ctgaaaagat ccttcagcc ctggccatct tggacttctg 60
gagctaccct ggctcacagg ggtcttgttg ccctgggtgt cccagttct tgaaaagaat 120
cagcctgga gggccacac cctgaccatc cccctttatc ccttctgaga tgtttgtag 180
gaagtctggg tccaggggat atcatttctt gttccatcca tgcaggggtt gcttacctcg 240
ggtaggaac cctcaggcgg tggcaggtgc acaggtaggg gaggatggag agggcagtgg 300
tgcctgaagc cctggatggg cggagctgac ccccaacac caactctatc atgcctgctc 360
ctccctgtcc cccagagct gcctgatcat tgctacagaa tgaactctag cccagctggg 420
acccaagtc cacagccctc cagggccaat gggaacatca acctggggcc ttcagccaac 480
ccaaatgcc agccacgga cttcgacttc ctcaaagtca tcggcaaagg gaactacggg 540
aaggtcctac tggccaagcg caagtctgat gggcggttct atgcagtga ggtactacag 600
aaaaagtcca tcttaaagaa gaaagagcag agccacatca tggcagagcg cagtgtgctt 660
ctgaagaacg tgcggcacc cttctctgtg ggcctgcgct actccttcca gacacctgag 720
aagctctact tcgtgctcga ctatgtcaac gggggagagc tcttcttcca cctgcagcgg 780

002.00160.ST25.txt

gagcgccggt tcctggagcc ccgggccagg ttctacgctg ctgagggtgc cagcgccatt	840
ggctacctgc actccctcaa catcatttac agggatctga aaccagagaa cattctcttg	900
gactgccagg gacacgtggt gctgacggat ttggcctct gcaaggaagg tgtagagcct	960
gaagacacca catccacatt ctgtgttacc cctgagtact tggcacctga agtgcttcgg	1020
aaagagcctt atgatcgagc agtggtactg tgggtgcttg gggcagtcct ctacgagatg	1080
ctccatggcc tgccgccctt ctacagccaa gatgtatccc agatgtatga gaacattctg	1140
caccagccgc tacagatccc cggaggccgg acagtggccg cctgtgacct cctgcaaagc	1200
cttctccaca aggaccagag gcagcggtg ggctccaaag cagactttct tgagattaag	1260
aaccatgtat tcttcagccc cataaactgg gatgacctgt accacaagag gctaactcca	1320
cccttcaacc caaatgtgac aggacctgct gacttgaagc attttgaccc agagttcacc	1380
caggaagctg tgtccaagtc cattggctgt acccctgaca ctgtggccag cagctctggg	1440
gcctcaagtg cattcctggg attttcttat gcgccagagg atgatgacat cttggattgc	1500
tagaagagaa ggacctgtga aactactgag gccagctggt attagtaagg aattaccttc	1560
agctgctagg aagagcgact caaactaaca atggcttcaa cgagaagcag gtttattttt	1620
tccagcacat aaaagaaaaa taatgtttcg gagtccagga ctggcaggac aggtcatcag	1680
atactcagag gctgtatctc tgccctgcca accttgacaa atggcttcca atgttaggtt	1740
tgctacaaga tggttactgg agctctagct gcctattttg tgtttaggga agggaaaatg	1800
gaggaaaagg gagaagagca aagggcgctt ttaaagagct ttcccaaaag ctcccccaa	1860
tgacttttgc ttccatctca ctaaccaccc accctacct ggaatggagg ctgggaaatg	1920
tggcttattt gctgggtacg tgactatccc taataacaaa ggggttttga ccctaagaca	1980
ttaggggaga atgttggtgta ggcagccagc cctcttttac catagggcct cctggtgtt	2040
ggattttgat ctcaatgtgt aaaatgacag agatgtaaca agctcatagg gtatcaatat	2100
ctcttattgt tctatgttga aaaaaaaaaa aaaaaaaaaa aaaaaa	2146

<210> 6
 <211> 2404
 <212> DNA
 <213> Homo sapiens

<400> 6
 ggtgtgtctt tgagggatta aatgcaaaga gatcacacca tggactacaa ggaaagctgc 60

ccaagtgtaa gcattccag ctccgatgaa cacagagaga aaaagaagag gtttactgtt 120
 tataaagttc tggtttcagt gggaagaagt gaatggtttg tcttcaggag atatgcagag 180
 tttgataaac ttataacac tttaaaaaa cagtttcctg ctatggccct gaagattcct 240
 gccaaagagaa tatttggtga taattttgat ccagatttta ttaaacaag acgagcagga 300
 ctaaaccgaat tcattcagaa cctagttagg tatccagaac ttataacca tccagatgtc 360
 agagcattcc ttcaaatgga cagtccaaaa caccagtcag atccatctga agatgaggat 420
 gaaagaagtt ctcaagaagct acactctacc tcacagaaca tcaacctggg accgtctgga 480
 aatcctcatg ccaaaccaac tgactttgat ttcttaaaag ttattggaaa aggcagcttt 540
 ggcaagggtc ttcttgcaaa acggaaactg gatggaaaat tttatgctgt caaagtgtta 600
 cagaaaaaaa tagttctcaa cagaaaagag caaaaacata ttatggctga acgtaatgtg 660
 ctcttgaaaa atgtgaaaca tccgtttttg gttggattgc attattcctt ccaaacaact 720
 gaaaagcttt attttgttct ggattttgtt aatggagggg agcttttttt ccacttaca 780
 agagaacggt cctttcctga gcacagagct aggttttacg ctgctgaaat tgctagtga 840
 ttgggttact tacattccat caaaatagta tacagagact tgaaaccaga aaatattctt 900
 ttggattcag taggacatgt tgtcttaaca gattttggc tttgtaaaga aggaattgct 960
 atttctgaca ccactaccac attttgtggg acaccagagt atcttgacc tgaagtaatt 1020
 agaaaacagc cctatgacaa tactgtagat tgggtgtgcc ttggggctgt tctgtatgaa 1080
 atgctgtatg gattgcctcc tttttattgc cgagatgttg ctgaaatgta tgacaatata 1140
 cttcacaac ccctaagttt gaggccagga gtgagtctta cagcctggtc cattctggaa 1200
 gaactcctag aaaaagacag gcaaaatcga cttggtgcca aggaagactt tcttgaaatt 1260
 cagaatcatc ctttttttga atcactcagc tgggctgacc ttgtacaaaa gaagattcca 1320
 ccaccattta atcctaagt gtgctggacca gatgatatca gaaactttga cacagcattt 1380
 acagaagaaa cagttccata ttctgtgtgt gtatcttctg actattctat agtgaatgcc 1440
 agtgatttgg aggcagatga tgcattcgtt ggtttctctt atgcacctcc ttcagaagac 1500
 ttatttttgt gagcagtttg ccattcagaa accattgagc aaaataagtc tatagatggg 1560
 actgaaactt ctatttgtgt gaatatattc aaatatgtat aactagtgcc tcatttttat 1620
 atgtaatgat gaaaactatg aaaaaatgta ttttcttcta tgtgcaagaa aaatagggca 1680
 tttcaaagag ctgttttgat taaaatttat attcttgttt aataagctta tttttaaaca 1740

atttaaaagc tattattctt agcattaacc tatttttaaa gaaacctttt ttgctattga 1800
 ctgttttttc cctctaagtt tacactaaca tctacccaag atagactgtt ttttaacagt 1860
 caatttcagt tcagctaaca tatattaata cctttgtaac tctttgctat ggcttttgtt 1920
 atcacaccaa aactatgcaa ttggtacatg gttgtttaag aagaaaccgt atttttccat 1980
 gataaatcac tgtttgaaat atttggttca tggatgatc gaaatgtaa agcataatta 2040
 acacattggc tgctagttaa caattggaat aactttattc tgcagatcat ttaagaagta 2100
 acaggccggg cgcggtggct cagcctgta atcccagcac tttgggaggc tgaggcgggc 2160
 agatcacctg aggtcaggag ttggagacca gcctgaccaa catggacaaa ccccgctctt 2220
 actaaaaata caaaattggc aggggtgtgtt ggcacatgcc tataatccca gctacttggg 2280
 aggctaaggc aggagaatcg cttgaaccg ggaggcggag gttgcagtga gccgagatcg 2340
 caccattgca ctctgcctg ggcaacaaga gtgaaactcc atctccaaaa aaaaaaaaaa 2400
 aaaa 2404

<210> 7
 <211> 1834
 <212> DNA
 <213> Homo sapiens

<400> 7
 gaagagggca gagccgtgca tggggctgct cccagggacc tgagcaggaa cctggagttt 60
 tcagagctgc ctgatcattg ctacagaatg aactctagcc cagctgggac cccaagtcca 120
 cagccctcca gggccaatgg gaacatcaac ctggggcctt cagccaaccc aaatgcccag 180
 cccacggact tcgacttctt caaagtcac ggcaaaggga actacgggaa ggtcctactg 240
 gccaaagcga agtctgatgg ggcgttctat gcagtgaagg tactacagaa aaagtccatc 300
 ttaaagaaga aagagcagag ccacatcatg gcagagcgca gtgtgcttct gaagaacgtg 360
 cggcaccctt tcctcgtggg cctgcgtac tccttcaga cacctgagaa gctctacttc 420
 gtgctcgact atgtcaacgg gggagagctc ttcttcacc tgcagcggga gcgccggttc 480
 ctggagcccc gggccaggtt ctacgtgct gaggtggcca gcgcattgg ctacctgcac 540
 tccctcaaca tcatttacag ggatctgaaa ccagagaaca ttctcttga ctgccaggga 600
 cacgtggtgc tgacggattt tggcctctgc aaggaagggt tagagcctga agacaccaca 660
 tccacattct gtggtacccc tgagtacttg gcacctgaag tgcttcggaa agagccttat 720

```

gatcgagcag tggactggtg gtgcttgggg gcagtcctct acgagatgct ccatggcctg 780
ccgcccttct acagccaaga tgtatcccag atgtatgaga acattctgca ccagccgcta 840
cagatccccg gaggccggac agtgccgcc tgtgacctcc tgcaaagcct tctccacaag 900
gaccagaggc agcggctggg ctccaaagca gactttcttg agattaagaa ccatgtattc 960
ttcagcccca taaactggga tgacctgtac cacaagaggc taactccacc cttcaaccca 1020
aatgtgacag gacctgtga cttgaagcat ttgaccag agttcaccca ggaagctgtg 1080
tccaagtcca ttggctgtac ccctgacct gtggccagca gctctggggc ctcaagtga 1140
ttcctgggat ttcttatgc gccagaggat gatgacatct tggattgcta gaagagaagg 1200
acctgtgaaa ctactgaggc cagctggtat tagtaaggaa ttaccttcag ctgctaggaa 1260
gagcgactca aactaacaat ggcttcaacg agaagcaggc ttatttttcc cagcacataa 1320
aagaaaaata atgtttcgga gtccaggact ggcaggacag gtcacagat actcagaggc 1380
tgtatctctg ccctgccaac cttgacaaat ggcttccaat gttaggtttg ctacaagatg 1440
gttactggag ctctagctgc ctattttgtg tttagggaag ggaaaatgga ggaaagggga 1500
gaagagcaaa gggcgctttt aaagagcttt cccaaaagct cccccaatg acttttgctt 1560
ccatctcact aaccaccac ccctacctgg aatggaggct gggaaatgtg gcttatttgc 1620
tgggtacgtg actatcccta ataacaaagg ggttttgacc ctaagacatt aggggagaat 1680
gttgggtagg cagccagccc tcttttacca tagggcctcc tgggttttg atttgatct 1740
caatgtgtaa aatgacagag atgtaacaag ctcatagggt atcaatatct cttattgttc 1800
tatgttgaaa aaaaaaaaaa aaaaaaaaaa aaaa 1834

```

<210> 8
 <211> 427
 <212> PRT
 <213> Homo sapiens

<400> 8

Met Gln Gly Leu Leu Thr Ser Gly Arg Lys Pro Ser Gly Gly Gly Arg
 1 5 10 15

Cys Thr Gly Arg Gly Gly Trp Arg Gly Gln Trp Cys Leu Lys Pro Trp
 20 25 30

Met Gly Gly Ala Asp Pro Pro Thr Pro Thr Leu Ser Cys Leu Leu Leu
 35 40 45

Pro Val Pro Pro Glu Leu Pro Asp His Cys Tyr Arg Met Asn Ser Ser
 50 55 60

Pro Ala Gly Thr Pro Ser Pro Gln Pro Ser Arg Ala Asn Gly Asn Ile
 65 70 75 80

Asn Leu Gly Pro Ser Ala Asn Pro Asn Ala Gln Pro Thr Asp Phe Asp
 85 90 95

Phe Leu Lys Val Ile Gly Lys Gly Asn Tyr Gly Lys Val Leu Leu Ala
 100 105 110

Lys Arg Lys Ser Asp Gly Ala Phe Tyr Ala Val Lys Val Leu Gln Lys
 115 120 125

Lys Ser Ile Leu Lys Lys Lys Glu Gln Ser His Ile Met Ala Glu Arg
 130 135 140

Ser Val Leu Leu Lys Asn Val Arg His Pro Phe Leu Val Gly Leu Arg
 145 150 155 160

Tyr Ser Phe Gln Thr Pro Glu Lys Leu Tyr Phe Val Leu Asp Tyr Val
 165 170 175

Asn Gly Gly Glu Leu Phe Phe His Leu Gln Arg Glu Arg Arg Phe Leu
 180 185 190

Glu Pro Arg Ala Arg Phe Tyr Ala Ala Glu Val Ala Ser Ala Ile Gly
 195 200 205

Tyr Leu His Ser Leu Asn Ile Ile Tyr Arg Asp Leu Lys Pro Glu Asn
 210 215 220

Ile Leu Leu Asp Cys Gln Gly His Val Val Leu Thr Asp Phe Gly Leu
 225 230 235 240

Cys Lys Glu Gly Val Glu Pro Glu Asp Thr Thr Ser Thr Phe Cys Gly
 245 250 255

Thr Pro Glu Tyr Leu Ala Pro Glu Val Leu Arg Lys Glu Pro Tyr Asp
 260 265 270

Arg Ala Val Asp Trp Trp Cys Leu Gly Ala Val Leu Tyr Glu Met Leu
 275 280 285

His Gly Leu Pro Pro Phe Tyr Ser Gln Asp Val Ser Gln Met Tyr Glu
 290 295 300

Asn Ile Leu His Gln Pro Leu Gln Ile Pro Gly Gly Arg Thr Val Ala
 305 310 315 320

Ala Cys Asp Leu Leu Gln Ser Leu Leu His Lys Asp Gln Arg Gln Arg
 325 330 335

Leu Gly Ser Lys Ala Asp Phe Leu Glu Ile Lys Asn His Val Phe Phe
 340 345 350

Ser Pro Ile Asn Trp Asp Asp Leu Tyr His Lys Arg Leu Thr Pro Pro
 355 360 365

Phe Asn Pro Asn Val Thr Gly Pro Ala Asp Leu Lys His Phe Asp Pro
 370 375 380

Glu Phe Thr Gln Glu Ala Val Ser Lys Ser Ile Gly Cys Thr Pro Asp
 385 390 395 400

Thr Val Ala Ser Ser Ser Gly Ala Ser Ser Ala Phe Leu Gly Phe Ser
 405 410 415

Tyr Ala Pro Glu Asp Asp Asp Ile Leu Asp Cys
 420 425

<210> 9

<211> 73

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 9

acacggatcc gccacatgt atccatatga tgttccagat tatgctacgg tgaaaaactga 60

ggctgctaag ggc

73

<210> 10
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR PRIMER

<400> 10
 acacggtacc gtcgactcag aggaaagagt ccgtggga99

40

<210> 11
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR PRIMER

<400> 11
 gatctcggat ccactaacgg tac

23

<210> 12
 <211> 15
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR PRIMER

<400> 12
 cgtagtgga tccga

15

<210> 13
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR PRIMER

<400> 13
 gctctggact tggggtccca gctgggc

27

<210> 14
 <211> 27
 <212> DNA

<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 14

gttgatgttc ccattggccc tggaggg

27

<210> 15

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Pcr Primer

<400> 15

gctgggcatt tgggttggt gaaggcc

27

<210> 16

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 16

aacatccgtt tttggttga ttgc

24

<210> 17

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 17

gggtagatgt tagtgtaaac

20

<210> 18

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 18

ataaagtctt ggatacctaa ctagg

25

<210> 19
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR PRIMER

<400> 19
gaagggaatgc tctgacatct ggatgg 26

<210> 20
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR PRIMER

<400> 20
gatctgactg gtgttttgga ctgtcc 26

<210> 21
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR PRIMER

<400> 21
ggatccagct gcctgatcat tgctac 26

<210> 22
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR PRIMER

<400> 22
gcggccgcct agcaatccaa gatgtcatc 29

<210> 23
<211> 26
<212> DNA
<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 23

26

ggatcccagg ggttgcttac ctcg99

<210> 24

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 24

29

gcggccgcct agcaatccaa gatgtcatc

<210> 25

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 25

29

ggatccaagc cctgaagaag attcctgcc

<210> 26

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 26

29

ggatccaagc cctgaagaag attcctgcc

<210> 27

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR PRIMER

<400> 27

26

gcggccgctc acaaaaataa gtcttc

<210> 28
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR PRIMER

<400> 28
 ggatcctgga cagtccaaaa caccag 26

<210> 29
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR PRIMER

<400> 29
 gcggccgctc acaaaaataa gtcttc 26

<210> 30
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PEPTIDE

<400> 30

Gly Arg Pro Arg Thr Ser Ser Phe Ala Glu Gly
 1 5 10

<210> 31
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PEPTIDE

<400> 31

Arg Pro Arg Thr Ser Ser
 1 5

<210> 32
 <211> 7
 <212> PRT

<213> Artificial Sequence

<220>

<223> PEPTIDE

<400> 32

Arg Pro Arg Thr Ser Ala Phe
1 5

<210> 33

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> PEPTIDE

<400> 33

Pro Arg Thr Ser Ser Phe
1 5

<210> 34

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> PEPTIDE

<400> 34

Arg Pro Arg Thr Ser Ser
1 5

<210> 35

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> PEPTIDE

<400> 35

Arg Pro Arg Thr Ser Thr Phe
1 5

<210> 36

<211> 7

<212> PRT
<213> Artificial Sequence

<220>
<223> PEPTIDE

<400> 36

Arg Pro Arg Ala Ala Thr Phe
1 5

<210> 37
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> PEPTIDE

<400> 37

Lys Pro Arg Thr Ser Ser Phe
1 5

<210> 38
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> PEPTIDE

<400> 38

Arg Pro Lys Thr Ser Ser Phe
1 5

<210> 39
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> PEPTIDE

<400> 39

Arg Pro Arg Thr Ser Ser Phe
1 5

<210> 40

<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> PEPTIDE

<400> 40

Arg Pro Arg Thr Ser Ser Leu
1 5

<210> 41
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> PEPTIDE

<400> 41

Arg Pro Arg Thr Ser Ser Val
1 5

<210> 42
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> PEPTIDE

<400> 42

Arg Pro Arg Thr Ser Ser Ala
1 5

<210> 43
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> PEPTIDE

<400> 43

Arg Pro Arg Thr Ser Ser Lys
1 5

<210> 44
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PEPTIDE

<400> 44

Arg Pro Arg Thr Ser Ser Glu
 1 5

<210> 45
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PEPTIDE

<220>
 <221> MISC_FEATURE
 <222> (2)..(3)
 <223> residues 2 and 3 are any amino acid

<220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> F or Y

<220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> S or T

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> F or Y

<400> 45

Phe Xaa Xaa Xaa Xaa Xaa
 1 5

<210> 46
 <211> 6
 <212> PRT

<213> Artificial Sequence

<220>

<223> PEPTIDE

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> any amino acid

<220>

<221> MISC_FEATURE

<222> (4)..(5)

<223> any amino acid

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> S or T

<400> 46

Arg Xaa Arg Xaa Xaa Xaa
1 5

<210> 47

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> PEPTIDE

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> any amino acid

<220>

<221> MISC_FEATURE

<222> (4)..(5)

<223> any amino acid

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> S or T

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> amino acid is preferably hydrophobic

<400> 47

Arg Xaa Arg Xaa Xaa Xaa Xaa
 1 5

<210> 48
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PEPTIDE

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> basic residue

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> P or I

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> D or E

<220>
 <221> MISC_FEATURE
 <222> (10)..(10)
 <223> L, I, or M

<400> 48

Xaa Thr Phe Cys Gly Thr Xaa Xaa Tyr Xaa Ala Pro Glu
 1 5 10

<210> 49
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
<223> PEPTIDE

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> R or K

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> any amino acid

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> any amino acid, preferably R

<220>
<221> MISC_FEATURE
<222> (4)..(5)
<223> any amino acid

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> S or T

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> any amino acid, preferably hydrophobic

<400> 49

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 50
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> PEPTIDE

<400> 50

002.00160.ST25.txt

Ser Ile Gly Cys Thr Pro Asp Thr Val Ala
1 5 10

<210> 51

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> PEPTIDE

<400> 51

Thr Phe Cys Gly Thr Pro Glu Thr Leu Ala
1 5 10